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(54) Title: METHODS OF PRODUCING LIGNIN PEROXIDASE AND ITS USE IN SKIN AND HAIR LIGHTENING

(57) Abstract: Methods of producing lignin peroxidase are provided. Also provided are methods and cosmetic compositions suitable for skin and hair lightening as well as kits and an article-of manufacturing including active ingredients for skin and hair lightening.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/IL03/01055

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A61K 7/135; C07K 1/00; C09B 29/00, 67/02; C12N 1/20, 9/00, 9/08; C12P 21/04; C12Q 1/68,
US CL : 8/524,525,641; 424/ 62; 435/6, 71.1, 183, 192, 252.3; 530/350; 534/845

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 8/524,525,641; 424/ 62; 435/6, 71.1, 183, 192, 252.3; 530/350; 534/845

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
IUBMB, REGISTRY

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 3,251, 742 A SOLOWAY, S) 17 May 1966, (17.05.1966), Entire document, especially Claims 1-6	1, 6-20
Y	US 6,732,464 B1 (YAVER et al.) 16 April 2002 (16.04.2002), Entire document, especially,	1-50
Y	US 5,486,214 A (PASZCZYNSKI et al.) 23 January 1996 (23.01. 1996), Entire document.	1-68
Y	US 5,342, 765 A (IRVINE et al.) 30 August 1994 (30.08.1994), Entire Document, Especially Abstract, Example 1, Claims 1-10	51-60

<input type="checkbox"/>	Further documents are listed in the continuation of Box C.	<input type="checkbox"/>	See patent family annex.
*	Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A"	document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"B"	earlier application or patent published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O"	document referring to an oral disclosure, use, exhibition or other means		
"P"	document published prior to the international filing date but later than the priority date claimed		

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Continuation of B. FIELDS SEARCHED Item 3:

USPT, PGPB, EPAB, JPAB, DWPI, BIOSIS, BIOTECHNO, CAPLUS, CEABA-VTB, CONFSCI, EMBASE, ESBIOBASE, FEDRIP, FOMAD, FROSTI, HCAPLUS, IFIPAT, JICST-EPLUS, KOSMET, LIFESCI, MEDLINE, PROMPT, RDISCLOSURE, SCISEARCH, USPATFUL, WPIDS.

Search Strategy:

Lignin peroxidase, laccase, manganese peroxidase, ligninase, ligninolytic enzymes, isoenzymes, white rot fungi, Phaenerochaete chrysosporium, Lentinus, mushroom, dye, hair, cosmetics, product\$, hair, keratin, skin, dyeing.